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1				5					10			_	-	15		
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_10		35	Lys	Gry	ысц	GLY	40	Asp	Gra	GIU	ser	45	Leu	Thr	Leu	
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65					70	_			•	75			_		80	
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act Thr																288
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			. Val					: Ile					Pro		gaa Glu	384
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	cat His													gat	ctg	864

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290 295 300

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981

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<213> Homo sapiens

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Lys Ala Met Lys Gly Leu Gly Thr Asp Glu Glu Ser Ile Leu Thr Leu 35 40 45

Leu Thr Ser Arg Ser Asn Ala Gln Arg Gln Glu Ile Ser Ala Ala Phe 50 55 60

Lys Thr Leu Phe Gly Arg Asp Leu Leu Asp Asp Leu Lys Ser Glu Leu 65 70 75 80

Thr Gly Lys Phe Glu Lys Leu Ile Val Ala Leu Met Lys Pro Ser Arg 85 90 95

Leu Tyr Asp Ala Tyr Glu Leu Lys His Ala Leu Lys Gly Ala Gly Thr
100 105 110

Asn Glu Lys Val Leu Thr Glu Ile Ile Ala Ser Arg Thr Pro Glu Glu 115 120 125

Leu Arg Ala Ile Lys Gln Val Tyr Glu Glu Glu Tyr Gly Ser Ser Leu 130 135 140 Glu Asp Asp Val Val Gly Asp Thr Ser Gly Tyr Tyr Gln Arg Met Leu 145 150 155 160

Val Val Leu Leu Gln Ala Asn Arg Asp Pro Asp Ala Gly Ile Asp Glu 165 170 175

Ala Gln Val Glu Gln Asp Ala Gln Ala Leu Phe Gln Ala Gly Glu Leu 180 185 190

Lys Trp Gly Thr Asp Glu Glu Lys Phe Ile Thr Ile Phe Gly Thr Arg 195 200 205

Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser 210 215 220

Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu 225 230 235 240

Glu Gln Leu Leu Ala Val Val Lys Ser Ile Arg Ser Ile Pro Ala 245 250 255

Tyr Leu Ala Glu Thr Leu Tyr Tyr Ala Met Lys Gly Ala Gly Thr Asp 260 265 270

Asp His Thr Leu Ile Arg Val Met Val Ser Arg Ser Glu Ile Asp Leu 275 280 285

Phe Asn Ile Arg Lys Glu Phe Arg Lys Asn Phe Ala Thr Ser Leu Tyr 290 295 300

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act Thr	gac Asp	tto Phe	c cct e Pro 20	Gly	ttt Phe	gat Asp	t gag o Glu	g egg Arg 25	Ala	c gat a Asp	gca Ala	ı gaa ı Glu	act Thi	Leu	cgg Arg	96
			Lys					Asp					Let		ctg Leu	144
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						Asp					Leu				cta Leu 80	240
act Thr	gga Gly	aaa Lys	ttt Phe	gaa Glu 85	aaa Lys	tta Leu	att Ile	gtg Val	gct Ala 90	ctg Leu	atg Met	aaa Lys	ccc Pro	tct Ser 95	cgg Arg	288
ctt Leu	tat Tyr	gat Asp	gct Ala 100	tat Tyr	gaa Glu	ctg Leu	aaa Lys	cat His 105	gcc Ala	ttg Leu	aag Lys	gga Gly	gct Ala 110	gga Gly	aca Thr	336
aat Asn	gaa Glu	aaa Lys 115	gta Val	ctg Leu	aca Thr	gaa Glu	att Ile 120	att Ile	gct Ala	tca Ser	agg Arg	aca Thr 125	cct Pro	gaa Glu	gaa Glu	384
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gaa Glu 145	gat Asp	gac Asp	gtg Val	gtg Val	ggg Gly 150	gac Asp	act Thr	tca Ser	gly aaa	tac Tyr 155	tac Tyr	cag Gln	cgg Arg	atg Met	ttg Leu 160	480
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gct ( Ala (	caa Gln	gtt Val	gaa Glu 180	caa Gln	gat Asp	gct Ala	Gln	gct Ala 185	tta Leu	ttt Phe	cag Gln .	Ala	gga Gly 190	gaa Glu	ctt Leu	576
aaa t	tgg	ggg	aca	gat	gaa	gaa	aag	ttt	atc	acc	atc	ttt.	aaa	aca	caa	624

Lys	Trp	Gly 195	Thr	Asp	Glu	Glu	Lys 200	Phe	Ile	Thr	Ile	Phe 205	Gly	Thr	Arg	_
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		caa Gln														720
		cta Leu										_			-	768
		gca Ala													_	816
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- Leu Thr Ser Arg Ser Asn Ala Gln Arg Gln Glu Ile Ser Ala Ala Phe 50 55 60
- Lys Thr Leu Phe Gly Arg Asp Leu Leu Asp Asp Leu Lys Ser Glu Leu 65 70 75 80
- Thr Gly Lys Phe Glu Lys Leu Ile Val Ala Leu Met Lys Pro Ser Arg
  85 90 95
- Leu Tyr Asp Ala Tyr Glu Leu Lys His Ala Leu Lys Gly Ala Gly Thr 100 105 110
- Asn Glu Lys Val Leu Thr Glu Ile Ile Ala Ser Arg Thr Pro Glu Glu 115 120 125
- Leu Arg Ala Ile Lys Gln Val Tyr Glu Glu Glu Tyr Gly Ser Ser Leu 130 135 140
- Glu Asp Asp Val Val Gly Asp Thr Ser Gly Tyr Tyr Gln Arg Met Leu 145 150 155 160
- Val Val Leu Leu Gln Ala Asn Arg Asp Pro Asp Ala Gly Ile Asp Glu 165 170 175
- Ala Gln Val Glu Gln Asp Ala Gln Ala Leu Phe Gln Ala Gly Glu Leu 180 185 190
- Lys Trp Gly Thr Asp Glu Glu Lys Phe Ile Thr Ile Phe Gly Thr Arg
  195 200 205
- Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser 210 215 220
- Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu 225 230 235 240
- Glu Gln Leu Leu Ala Val Val Lys Ser Ile Arg Ser Ile Pro Ala 245 250 255
- Tyr Leu Ala Glu Thr Leu Tyr Tyr Ala Met Lys Gly Ala Gly Thr Asp 260 265 270
- Asp His Thr Leu Ile Arg Val Met Val Ser Arg Ser Glu Ile Asp Leu 275 280 285

Phe Asn Ile 290	Arg Lys	Glu Phe 295		Asn Phe	Ala Thr	Ser Leu	Tyr							
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ctt tat gat Leu Tyr Asp .														

gaa Glu							_	_	384
aga Arg 130							_	-	432
gat Asp						_	 _	_	480
gtt Val							-	-	528
caa Gln					_	-	 -		576
tgg Trp								-	624
gtg Val 210									672
ttt Phe									720
caa Gln						_		-	768
ctt Leu								_	816
cat His							-	_	864
aac Asn 290		Glu							912

tcc atg att aag gga gat aca tct ggg gac tat aag aaa gct ctt ctg  $\,$  960 Ser Met Ile Lys Gly Asp Thr Ser Gly Asp Tyr Lys Lys Ala Leu Leu  $\,$  305  $\,$  310  $\,$  315  $\,$  320  $^{--}$ 

ctg ctc tcc gga gaa gat gac Leu Leu Ser Gly Glu Asp Asp 325

981

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<213> Homo sapiens

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Leu Thr Ser Arg Ser Asn Ala Gln Arg Gln Glu Ile Ser Ala Ala Phe 50 55 60

Lys Thr Leu Phe Gly Arg Asp Leu Leu Asp Asp Leu Lys Ser Glu Leu 65 70 75 80

Thr Gly Lys Phe Glu Lys Leu Ile Val Ala Leu Met Lys Pro Ser Arg 85 90 95

Leu Tyr Asp Ala Tyr Glu Leu Lys His Ala Leu Lys Gly Ala Gly Thr 100 105 110

Asn Glu Lys Val Leu Thr Glu Ile Ile Ala Ser Arg Thr Pro Glu Glu 115 120 125

Leu Arg Ala Ile Lys Gln Val Tyr Glu Glu Glu Tyr Gly Ser Ser Leu 130 135 140

Glu Asp Asp Val Val Gly Asp Thr Ser Gly Tyr Tyr Gln Arg Met Leu 145 150 155 160

Val Val Leu Leu Gln Ala Asn Arg Asp Pro Asp Ala Gly Ile Asp Glu 165 170 175

- Ala Gln Val Glu Gln Asp Ala Gln Ala Leu Phe Gln Ala Gly Glu Leu 180 185 190
- Lys Trp Gly Thr Asp Glu Glu Lys Phe Ile Thr Ile Phe Gly Thr Arg 195 200 205
- Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser 210 215 220
- Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu 225 230 235 240
- Glu Gln Leu Leu Ala Val Val Lys Ser Ile Arg Ser Ile Pro Ala 245 250 255
- Tyr Leu Ala Glu Thr Leu Tyr Tyr Ala Met Lys Gly Ala Gly Thr Asp 260 265 270
- Asp His Thr Leu Ile Arg Val Met Val Ser Arg Ser Glu Ile Asp Leu 275 280 285
- Phe Asn Ile Arg Lys Glu Phe Arg Lys Asn Phe Ala Thr Ser Leu Tyr 290 295 300
- Ser Met Ile Lys Gly Asp Thr Ser Gly Asp Tyr Lys Lys Ala Leu Leu 305 310 315 320

Leu Leu Ser Gly Glu Asp Asp 325

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432
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130 135 140

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145 150 155 160

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195 200 205

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672
Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser
210
215
220

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720
Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu
225

gag caa cta ctc ctt gct gtt gtg aaa tct att cga agt ata cct gcc
768
Glu Gln Leu Leu Ala Val Val Lys Ser Ile Arg Ser Ile Pro Ala
245
250
255

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gat cat acc ctc atc aga gtc atg gtt tcc agg agt gag att gat ctg

864
Asp His Thr Leu Ile Arg Val Met Val Ser Arg Ser Glu Ile Asp Leu

275
280
285

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912
Phe Asn Ile Arg Lys Glu Phe Arg Lys Asn Phe Ala Thr Ser Leu Tyr
290
295
300

tcc atg att aag gga gat aca tct ggg gac tat aag aaa gct ctt ctg
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Ser Met Ile Lys Gly Asp Thr Ser Gly Asp Tyr Lys Lys Ala Leu Leu
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ctq ctc tcc gga gaa gat gac

981 Leu Leu Ser Gly Glu Asp Asp

325

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Leu Thr Ser Arg Ser Asn Ala Gln Arg Gln Glu Ile Ser Ala Ala Phe 50 55 60

Lys Thr Leu Phe Gly Arg Asp Leu Leu Asp Asp Leu Lys Ser Glu Leu 65 70 75 80

Thr Gly Lys Phe Glu Lys Leu Ile Val Ala Leu Met Lys Pro Ser Arg 85 90 95

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Asn Glu Lys Val Leu Thr Glu Ile Ile Ala Ser Arg Thr Pro Glu Glu 115 120 125

Leu Arg Ala Ile Lys Gln Val Tyr Glu Glu Glu Tyr Gly Ser Ser Leu 130 135 140

Glu Asp Asp Val Val Gly Asp Thr Ser Gly Tyr Tyr Gln Arg Met Leu 145 150 155 160

Val Val Leu Leu Gln Ala Asn Arg Asp Pro Asp Ala Gly Ile Asp Glu 165 170 175

Ala Gln Val Glu Gln Asp Ala Gln Ala Leu Phe Gln Ala Gly Glu Leu 180 185 190

Lys Trp Gly Thr Asp Glu Glu Lys Phe Ile Thr Ile Phe Gly Thr Arg 195 200 205

Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser 210 215 220

Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu 225 230 235 240

Glu Gln Leu Leu Ala Val Val Lys Ser Ile Arg Ser Ile Pro Ala 245 250 255

Tyr Leu Ala Glu Thr Leu Tyr Tyr Ala Met Lys Gly Ala Gly Thr Asp 260 265 270

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Asp His Thr Leu Ile Arg Val Met Val Ser Arg Ser Glu Ile Asp Leu 275 280 285
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Phe Asn Ile Arg Lys Glu Phe Arg Lys Asn Phe Ala Thr Ser Leu Tyr 290 295 300

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20 25 30

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50 55 60

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65 70 75 80

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95

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100 105 110

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115 120 125

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432
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135
140

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155
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165 170 175

190

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185

180

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195 200 205

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672
Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser
210
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220

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720
Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu
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235
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260 265 270

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981

Leu Leu Ser Gly Glu Asp Asp

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<210> 4 <211> 327 <212> PRT <213> Homo sapiens

<400> 4

Met Ala Gly Gly Cys Gly His Met Ala Gln Val Leu Arg Gly Thr Val 1 5 10 15

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Lys Ala Met Lys Gly Leu Gly Thr Asp Glu Glu Ser Ile Leu Thr Leu 35 40 45

Leu Thr Ser Arg Ser Asn Ala Gln Arg Gln Glu Ile Ser Ala Ala Phe 50 55 60

Lys Thr Leu Phe Gly Arg Asp Leu Leu Asp Asp Leu Lys Ser Glu Leu 65 70 75 80

Thr Gly Lys Phe Glu Lys Leu Ile Val Ala Leu Met Lys Pro Ser Arg 85 90 95

Leu Tyr Asp Ala Tyr Glu Leu Lys His Ala Leu Lys Gly Ala Gly Thr 100 105 110

Asn Glu Lys Val Leu Thr Glu Ile Ile Ala Ser Arg Thr Pro Glu Glu 115 120 125

Leu Arg Ala Ile Lys Gln Val Tyr Glu Glu Glu Tyr Gly Ser Ser Leu 130 135 140

Glu Asp Asp Val Val Gly Asp Thr Ser Gly Tyr Tyr Gln Arg Met Leu 145 150 155 160

Val Val Leu Leu Gln Ala Asn Arg Asp Pro Asp Ala Gly Ile Asp Glu 165 170 175

Ala Gln Val Glu Gln Asp Ala Gln Ala Leu Phe Gln Ala Gly Glu Leu 180 185 190

Lys Trp Gly Thr Asp Glu Glu Lys Phe Ile Thr Ile Phe Gly Thr Arg 195 200 205

Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser 210 215 220

Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu 225 230 235 240

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85

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240
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65 70 75 80

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100 105 110

90

95

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115 120 125

ctg aga gcc atc aaa caa gtt tat gaa gaa gaa tat ggc tca agc ctg
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Leu Arg Ala Ile Lys Gln Val Tyr Glu Glu Glu Tyr Gly Ser Ser Leu
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135
140

gaa gat gac gtg gtg ggg gac act tca ggg tac tac cag cgg atg ttg 480 Glu Asp Asp Val Val Gly Asp Thr Ser Gly Tyr Tyr Gln Arg Met Leu

145 150 155 160

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624
Lys Trp Gly Thr Asp Glu Glu Lys Phe Ile Thr Ile Phe Gly Thr Arg
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Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser
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Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu
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240

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Glu Gln Leu Leu Leu Ala Val Val Lys Ser Ile Arg Ser Ile Pro Ala
245
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255

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gat cat acc ctc atc aga gtc atg gtt tcc agg agt gag att gat ctg
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Asp His Thr Leu Ile Arg Val Met Val Ser Arg Ser Glu Ile Asp Leu
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280
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912 Phe Asn Ile Arg Lys Glu Phe Arg Lys Asn Phe Ala Thr Ser Leu Tyr

290 295 300

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960

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Leu Thr Ser Arg Ser Asn Ala Gln Arg Gln Glu Ile Ser Ala Ala Phe 50 55 60

Lys Thr Leu Phe Gly Arg Asp Leu Leu Asp Asp Leu Lys Ser Glu Leu 65 70 75 80

Thr Gly Lys Phe Glu Lys Leu Ile Val Ala Leu Met Lys Pro Ser Arg 85 90 95

Leu Tyr Asp Ala Tyr Glu Leu Lys His Ala Leu Lys Gly Ala Gly Thr 100 105 110

Asn Glu Lys Val Leu Thr Glu Ile Ile Ala Ser Arg Thr Pro Glu Glu 115 120 125

Leu Arg Ala Ile Lys Gln Val Tyr Glu Glu Glu Tyr Gly Ser Ser Leu 130 135 140

Glu Asp Asp Val Val Gly Asp Thr Ser Gly Tyr Tyr Gln Arg Met Leu 145 150 155 . 160

Val Val Leu Leu Gln Ala Asn Arg Asp Pro Asp Ala Gly Ile Asp Glu 165 170 175

Ala Gln Val Glu Gln Asp Ala Gln Ala Leu Phe Gln Ala Gly Glu Leu 180 185 190

Lys Trp Gly Thr Asp Glu Glu Lys Phe Ile Thr Ile Phe Gly Thr Arg 195 200 205

Ser Val Ser His Leu Arg Lys Val Phe Asp Lys Tyr Met Thr Ile Ser 210 215 220

Gly Phe Gln Ile Glu Glu Thr Ile Asp Arg Glu Thr Ser Gly Asn Leu 225 230 235 240

Glu Gln Leu Leu Ala Val Val Lys Ser Ile Arg Ser Ile Pro Ala 245 250 255

Tyr Leu Ala Glu Thr Leu Tyr Tyr Ala Met Lys Gly Ala Gly Thr Asp 260 265 270

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